

Remarks

Claim Objections

Claims 8, 9 and 12 were objected to under 37 CFR 1.75(c) as being in improper independent form because of multiple dependency. Reconsideration is requested inasmuch as these claims do not suffer from improper multiple dependency. 37 CFR 1.75(c) (and MPEP 608.01(n)) forbid a multiple dependent claim from depending from another multiple dependent claim. Claims 8 and 9 are multiple dependent claims, but neither of them depends from another multiple dependent claim. The claims from which claims 8 and 9 depend are not themselves multiple dependent claims. Claim 12 is a multiple dependent claim, but does not depend from any other multiple dependent claim. Accordingly, claims 8, 9 and 12 are in proper form.

Claim 24

Claim 24 has been amended to identify the sugar as dextrose. Support for this amendment is found throughout the specification, e.g., on page 3, line 3.

The Invention

The inventors have discovered that an additive containing sodium diacetate and a simple sugar optimize a growth environment for ruminal microbes and cause an unexpected increase in both feed intake and milk production. Sodium diacetate and simple sugar work in a synergistic manner, providing the rumen microbes with a source of rapidly fermentable simple sugar while maintaining a consistent rumen pH. Microbes flourish under these conditions, and rumen digestion is enhanced. The sodium diacetate prevents the ruminal pH from falling into an overly acidic environment which inhibits or kills the ruminal microbes. As will be noted from the comments that follow, none of the cited references have any teaching of combining sodium diacetate and a simple sugar to enhance a ruminant's feed intake and milk production.

35 U.S.C. 103(a) Rejections

Claims 1-5, 8-18, 20-25 and 28-35 are pending in the application, and each has been rejected under 35 U.S.C. 103(a) as being unpatentable over Glabe et al. (U.S. Patent No. 4,196,194) in view of Glabe et al. (U.S. Patent No. 3,925,559) further in view of Lange et al. et al. (U.S. Patent No. 5,296,243). The rejection is respectfully traversed.

None of the references relied on for this rejection, either alone or in combination, disclose or teach combining sodium diacetate and a simple sugar to enhance a ruminant's feed intake and milk production. Moreover, one of ordinary skill in the art would not be motivated to combine the teachings of either Glabe '194 or Glabe '559 with the teachings of Lange et al. to provide a feed additive comprising effective amounts of sodium diacetate and a simple sugar. Quite to the contrary, Lange et al. is directed towards adding any of a wide variety of sugars (including lactose, see col. 2, Line 1) together with amino acids to animal feed to induce the formation of ASP-like lectines (see, e.g., col. 1, lines 45-50). Lange et al. have no concept of the synergistic effect of combining effective amounts of sodium diacetate and a simple sugar. Lange et al. does not even mention sodium diacetate.

Neither of the Glabe references teach or suggest the use of an effective amount of a simple sugar in combination with an effective amount of sodium diacetate, and clearly cannot suggest that there would be any synergy in a combination of effective amounts of these materials to enhance a ruminant's feed intake and milk production.

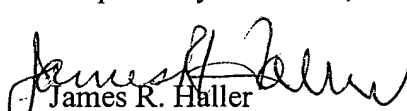
How, then, can one extract from these references the concept of combining effective amounts of a simple sugar and sodium diacetate so that they function in a synergistic manner to provide rumen microbes with a source of rapidly fermentable simple sugar while maintaining a consistent rumen pH to enhance rumen digestion? There is only one teaching that provides this information, and that is the applicant's patent application, but this is not prior art. There is nothing in any of these references to suggest that they might be combined, nor any suggestion of a synergistic result to be obtained, nor which sugar should be selected, nor how much of either ingredient should be used.

Moreover, if one were to combine the teachings of either Glabe '194 or Glabe '559 with the teachings of Lange et al., there is no assurance or even likelihood that the claimed invention would be obtained, since the references themselves (excluding the applicant's teachings) do not teach which sugars would work, nor do they provide any instruction as to the use of "effective amounts" of the respective ingredients. Of course, none of the references disclose any suggestion of a synergistic result that might be obtained; that is, they do not suggest a goal to be reached by the use of a simple sugar and

sodium diacetate in combination. The references cannot, then be expected to suggest the use of "effective amounts" of the ingredients. The invention optimizes the growth environment for ruminal microbes by making a fermentable, simple sugar readily available and by maintaining a consistent rumen pH. None of the references, in any combination, disclose or suggest this result.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested. The Examiner is invited to telephone the undersigned if he believes it would be useful to advance prosecution.

Respectfully submitted,


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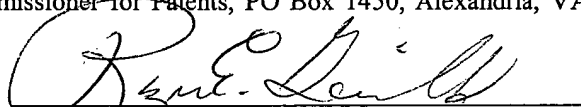
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